

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Use of Spectrum Bands Above 24 GHz For)	GN Docket No. 14-177
Mobile Radio Services)	
)	
Establishing a More Flexible Framework to)	
Facilitate Satellite Operations in the 27.5-28.35)	IB Docket No. 15-256
GHz and 37.5-40 GHz Bands)	
)	
Petition for Rulemaking of the Fixed Wireless)	
Communications Coalition to Create Service)	RM-11664
Rules for the 42-43.5 GHz Band)	
)	
Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95,)	
and 101 To Establish Uniform License Renewal,)	
Discontinuance of Operation, and Geographic)	WT Docket No. 10-112
Partitioning and Spectrum Disaggregation Rules)	
and Policies for Certain Wireless Radio Services)	
)	
Allocation and Designation of Spectrum for)	
Fixed-Satellite Services in the 37.5-38.5 GHz,)	
40.5-41.5 GHz and 48.2-50.2 GHz Frequency)	IB Docket No. 97-95
Bands; Allocation of Spectrum to Upgrade Fixed)	
and Mobile Allocations in the 40.5-42.5 GHz)	
Frequency Band; Allocation of Spectrum in the)	
46.9-47.0 GHz Frequency Band for Wireless)	
Services; and Allocation of Spectrum in the 37.0-)	
38.0 GHz and 40.0-40.5 GHz for Government)	
Operation)	

T-MOBILE USA, INC. PETITION FOR RECONSIDERATION

Steve B. Sharkey
John Hunter
Christopher Wiczorek

T-MOBILE USA, INC.
601 Pennsylvania Avenue, N.W.
Suite 800
Washington, DC 20004
(202) 654-5900

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T-MOBILE USA, INC. PETITION FOR RECONSIDERATION

T-Mobile USA, Inc. (“T-Mobile”),^{1/} pursuant to Section 1.429 of the rules,^{2/} hereby requests that the Commission reconsider several elements of the *Report and Order* released in

^{1/} T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly traded company.

^{2/} 47 C.F.R. § 1.429.

the above-referenced dockets on July 14, 2016.^{3/} The Commission has taken important steps toward the implementation of Fifth Generation (“5G”) mobile networks in this proceeding and should make those measures even more effective by dedicating additional spectrum for licensed services; modifying the performance deadlines for incumbent licensees; changing the operability requirements for the 37/39 GHz bands; and eliminating the Cybersecurity Statement requirement.

I. INTRODUCTION AND SUMMARY

T-Mobile applauds the Commission’s efforts in this proceeding to make additional spectrum available in the millimeter wave bands. Demand for mobile network capacity is outpacing available spectrum,^{4/} and identifying new spectrum for the provision of mobile

^{3/} *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services; Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band; Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0- 38.0 GHz and 40.0-40.5 GHz for Government Operations*, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-89, 2016 FCC LEXIS 2470 (2016) (subparts referred to respectively as the “*Report and Order*” and the “*FNPRM*”); *see also* *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, 81 Fed. Reg. 79894 (Nov. 14, 2016). Under Sections 1.4 and 1.429 of the Commission’s rules, petitions for reconsideration of final orders in rulemaking proceedings must be filed within 30 days from the date of publication in the Federal Register. This petition is therefore timely filed.

^{4/} *See* Thomas K. Sawanobori and Robert Roche, *Mobile Data Demand: Growth Forecasts Met*, CTIA, at 1-2 (June 22, 2015), <http://www.ctia.org/docs/default-source/default-document-library/062115mobile-data-demands-white-paper-new.pdf> (“[I]n 2010, the National Broadband Plan referenced demand forecasts to call for 500 MHz of spectrum to be made available for wireless broadband by 2020, including 300 MHz between 225 MHz and 3.7 GHz for mobile use by 2015. . . . [T]he FCC’s estimates were informed by projections of mobile data traffic growth – which it used to make a forecast that was truly prescient. Given that the U.S. has only made a partial down payment on the spectrum repurposing goals set by the FCC, and demand in the next five years will continue to explode, the U.S. will need significantly more spectrum[.]”); *see also* CISCO, CISCO VISUAL NETWORKING INDEX: GLOBAL MOBILE DATA TRAFFIC FORECAST UPDATE, 2014–2019, at 17 (2015), http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-

services is vitally important. As T-Mobile noted in previous filings, the millimeter wave bands will be valuable in helping to satisfy the ever-increasing need for mobile network capacity and in meeting the needs of small-cell deployment of 5G networks.^{5/} T-Mobile is therefore encouraged that the Commission has identified additional bands in the *FNPRM* that can be made available for terrestrial mobile broadband.^{6/} However, despite these efforts, there are certain provisions of the *Report and Order* that do not further the Commission’s goal of “promot[ing] the deployment of these highly beneficial [5G] technologies”^{7/} to the maximum extent possible and should therefore be reconsidered. Specifically, the Commission should:

- make more spectrum available for licensed use;
- grant incumbents the option of meeting current performance obligations at the end of their license terms and meeting new performance requirements at the same time as new entrants;
- clarify or eliminate the requirement that any mobile or transportable device operating in the 37 or 39 GHz bands be capable of operating at all frequencies within the entirety of both of those bands; and
- eliminate the Cybersecurity Statement requirement.

II. ADDITIONAL SPECTRUM SHOULD BE MADE AVAILABLE FOR LICENSED USE

T-Mobile appreciates that the Commission must make sufficient spectrum capacity available for licensed and unlicensed operations. As T-Mobile has noted in the past, it is a significant user of unlicensed spectrum and has pioneered approaches to its deployment with

520862.pdf (“Because mobile video content has much higher bit rates than other mobile content types, mobile video will generate much of the mobile traffic growth through 2019.”).

^{5/} See, e.g., Comments of T-Mobile USA, Inc., GN Dkt. No. 14-177 *et al.*, at 2 (filed Sept. 30, 2016) (“T-Mobile *FNPRM* Comments”); Comments of T-Mobile USA, Inc., GN Dkt. No. 14-177 *et al.*, at 2 (filed Oct. 31, 2016) (“T-Mobile *FNPRM* Reply Comments”).

^{6/} See *FNPRM*, ¶ 373 (“[W]e propose authorizing flexible use licenses that would permit fixed and mobile services in the following bands: 24.25-24.45 GHz and 24.75-25.25 GHz, 31.8-33.4 GHz, 42-42.5 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 71-76 GHz, and 81-86 GHz.”).

^{7/} *Report and Order*, ¶ 1.

licensed networks.^{8/} However, the *Report and Order* is heavily weighted in favor of making unlicensed spectrum available at the expense of licensed use – of the 10.85 gigahertz of millimeter wave spectrum the *Report and Order* made available, only 3.25 gigahertz was made available for licensed use on an exclusive basis. While spectrum for both licensed and unlicensed uses is important, the disparity here is stark. Moreover, only a small amount of the 3.25 gigahertz of spectrum designated for exclusive licensed use will actually be auctioned, as most is already licensed to incumbent entities. Thus, potential service providers that wish to use licensed spectrum received limited potential benefit from the *Report and Order*.

Licensed spectrum is the foundation of today’s robust mobile wireless ecosystem, driving investment, innovation, and competition. Investment by wireless carriers in licensed spectrum has made America the world’s wireless industry leader, facilitated the creation of networks capable of supporting greater speeds and functionalities, and led to new, more powerful and sophisticated devices. Licensed spectrum is also a critical driver of the Nation’s economy – for instance, every 10 megahertz of spectrum made available adds \$3 billion to the US. Gross

^{8/} See, e.g., Comments of T-Mobile USA, Inc., ET Dkt. No. 15-105, at 2-3 (filed June 11, 2015) (discussing T-Mobile’s unlicensed technology innovations) (“T-Mobile LTE-U Comments”). For instance, T-Mobile was the first carrier to offer its customers cutting-edge technologies like nationwide Voice over LTE (“VoLTE”) and next-generation Wi-Fi calling, and T-Mobile’s LTE network now supports 61% of its voice traffic with VoLTE. See *id.*; T-Mobile News Release, *The Un-remitting Un-carrier Network* (Oct. 21, 2016) (“T-Mobile October News Release”), <https://newsroom.t-mobile.com/news-and-blogs/unremitting-uncarrier-network.htm>. T-Mobile was also the first carrier to launch a number of other unlicensed technology innovations, introducing calling over Wi-Fi in 2007 with HotSpot @Home™ and worldwide Wi-Fi calling in 2014, which allows T-Mobile customers to make free Wi-Fi calls to the United States from anywhere outside the country where they have Wi-Fi. See T-Mobile LTE-U Comments; T-Mobile October News Release. In 2014, T-Mobile also released Un-carrier 7.0 “Wi-Fi Un-leashed,” a program that ensured all new smartphones in T-Mobile stores are capable of Wi-Fi calling and texting and that all T-Mobile customers are able to obtain a Wi-Fi calling and texting capable smartphone. See T-Mobile LTE-U Comments at 2-3.

Domestic Product and supports approximately 202,000 new jobs.^{9/} In order to maintain America's position of leadership and to promote further innovation and economic growth, a significant and predictable supply of spectrum must be made available for licensed wireless systems. Licensed wireless systems also enable the technology and infrastructure development that helps ensure a marketplace for unlicensed technology.

Many parties, including T-Mobile, noted the disparity in the Commission's proposals for licensed and unlicensed spectrum.^{10/} Yet, the Commission addressed this issue only in passing in the *Report and Order*, remaining silent on the value of licensed spectrum and failing to adequately justify its decision to allocate so little of the spectrum in the *Report and Order* for exclusive, licensed use.^{11/} The Administrative Procedure Act, however, requires the Commission to provide a basis for its decisions in order for them not to be considered arbitrary and capricious and therefore violate the Administrative Procedure Act.^{12/}

^{9/} See *Wireless Quick Facts*, CTIA, <http://www.ctialatest.org/industry-data/wireless-quick-facts> (last accessed Nov. 11, 2016).

^{10/} See, e.g., Comments of T-Mobile USA, Inc., GN Dkt. No. 14-177 *et al*, at 14 (filed Jan. 27, 2016) (“[T]he Commission should evaluate the amount of spectrum that it is creating for unlicensed and licensed use, respectively, in this proceeding. Even if the Commission licenses the 37 GHz band, as T-Mobile suggests, there will be under 4 gigahertz of millimeter wave spectrum designated for licensed mobile wireless use in this proceeding, as opposed to an additional 7 gigahertz of spectrum (and 14 gigahertz overall) designated for unlicensed operations. The Commission should take a more balanced approach.”); Reply Comments of CTIA, GN Dkt. No. 14-177 *et al*, at 11 (filed Feb. 26, 2016) (“Commenters also note that bifurcating the 64-71 GHz band into licensed and unlicensed portions would maintain an equitable division between licensed and unlicensed services in this proceeding. Given the nascent nature of 5G and deployment of wireless broadband in the millimeter wave bands, it makes sense to provide a relatively equal allocation of unlicensed and licensed spectrum.”); Comments of Verizon, GN Dkt. No. 14-177 *et al*, at 13 (filed Jan. 28, 2016) (“The amount of licensed spectrum in these upper frequencies is low, whereas there are substantial blocks (e.g., 56-64 GHz, 92-95 GHz) of upper-frequency spectrum already dedicated to unlicensed use. Assigning some of the 64-71 GHz to licensed uses may help achieve a better balance.”).

^{11/} See *Report and Order*, ¶¶ 31-32.

^{12/} See, e.g., *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2125 (2016) (“One of the basic procedural requirements of administrative rulemaking is that an agency must give adequate reasons for its decisions. The agency must examine the relevant data and articulate a satisfactory explanation for its

37-37.6 GHz Band (“Lower 37 GHz Band Segment”). The *Report and Order* correctly rejected the initially proposed hybrid approach for the Lower 37 GHz Band Segment, under which premises owners would have been licensed by rule and “overlay” licenses would have been issued on a geographic area basis.^{13/} Instead, the Commission determined that the Lower 37 GHz Band Segment would be available for coordinated co-primary sharing between federal and non-federal users, where non-federal rights are granted by rule as Shared Access Licenses (“SALs”).^{14/} There is, however, no support in the record for the Commission’s approach. *First*, while the creation of SALs may provide “easy access to spectrum,”^{15/} the same type of access is already feasible in millimeter wave spectrum at 57-64 GHz, which is designated for unlicensed use. In contrast, as noted above, the amount of spectrum designated for exclusive licensed use is limited. The record does not demonstrate why there would be particular value in SALs in the Lower 37 GHz Band Segment when so much spectrum is already available in the millimeter wave bands without an authorization.

Second, while there may be benefit to shared federal/non-federal use of the band, there is no reason that the shared access must occur through unlicensed non-federal use. To the contrary, there are significant benefits to federal users sharing with licensed non-federal entities. There

action including a rational connection between the facts found and the choice made.”) (citing to *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal quotation omitted)); *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962) (“There are no findings and no analysis here to justify the choice made, no indication of the basis on which the Commission exercised its expert discretion. We are not prepared to and the Administrative Procedure Act will not permit us to accept [this]...for the courts to determine whether the agency has [lawfully exercised its discretion], it must disclose the basis of its order.”); *American Mining Congress v. EPA*, 907 F.2d 1179, 1991 (D.C. Cir. 1990) (holding that “agency silence” in the face of “points raised in the comments...demonstrates the rulemaking to be arbitrary and capricious”) (citing to *Natural Resources Defense Council v. EPA*, 859 F.2d 156, 188 (D.C. Cir. 1988)).

^{13/} See *Report and Order*, ¶ 111.

^{14/} See *id.*, ¶ 113.

^{15/} See *id.*, ¶ 117.

are already established and successful mechanisms for federal users to share with non-federal licensees in the AWS-1 and AWS-3 bands.^{16/} Shared federal use with licensed non-federal users may also eliminate the need for a complicated and cumbersome sharing database or similar mechanism, on which the Commission seeks comment in the *FNPRM*.^{17/} Finally, if the Commission wants federal users to “take advantage of speed-to-market and lower cost of broadly deployed commercial technologies,”^{18/} that goal will be reached more quickly if the band is designated for exclusive, licensed commercial use.

Third, by designating the Lower 37 GHz Band Segment for SAL use, the Commission is foregoing the opportunity to realize the efficiencies that would be created by licensing the entire 37-38.6 GHz band. Designating additional spectrum at 37 GHz is particularly important because it will create the opportunity for additional competition in that band. And, as T-Mobile has pointed out, most of the millimeter wave band spectrum designated for licensed use is already authorized.^{19/} Because there are no non-federal incumbents in the 37-38.6 GHz band,^{20/} unnecessarily setting aside some of that spectrum under a licensed-by-rule approach – without any support in the record – will restrict the ability of new entrants to provide service in this band and inhibit the growth of 5G technologies.

64-71 GHz Band. In addition to the above, the Commission was too quick to dismiss the possibilities for licensed mobile operations in the 64-71 GHz band, despite there being increasing

^{16/} For instance, the AWS-3 transition and the corresponding work by the National Telecommunications and Information Administration’s Commerce Spectrum Management Advisory Committee provide a framework for how the Commission could proceed here with regard to incumbent federal users and new licensed commercial users.

^{17/} See *FNPRM*, ¶ 450.

^{18/} See *Report and Order*, ¶ 117.

^{19/} See, e.g. T-Mobile *FNPRM* Comments at 2-3; T-Mobile *FNPRM* Reply Comments at 6.

^{20/} See *Report and Order*, ¶ 101.

evidence of this band’s potential.^{21/} A Nokia study released in December 2015, for instance, shows that 5G mobile services are possible in these higher frequencies,^{22/} and a recent study by NYU Wireless demonstrates that “remarkable distances that can be achieved using millimeter wave communications, and presents a new rural macrocell (RMa) path loss model for millimeter wave frequencies, based on measurements at 73 GHz[.]”^{23/} These studies show that the 64-71 GHz band has value for licensed mobile services and could lead to even greater 5G investment and innovation. Technology is advancing swiftly – as the Commission is aware,^{24/} the 28 and 39 GHz bands have gone from being considered unsuitable for licensed mobile operations to desirable for licensed mobile operations within the space of a few years.

Accordingly, the Commission should reconsider the balance of licensed versus unlicensed spectrum in the *Report and Order* and make more spectrum available for licensed use.

III. THE INCUMBENT PERFORMANCE REQUIREMENTS SHOULD BE REVISITED

The *Report and Order* established a June 1, 2024, deadline for incumbent licensees to meet the newly adopted performance requirements, and excused incumbent licensees from the requirement to meet the currently applicable performance requirements at renewal should their license term end prior to June 1, 2024.^{25/} The Commission will presumably effectuate a

^{21/} See, e.g., *Report and Order*, ¶ 130.

^{22/} Y. Inoue, *et al.*, *Field Experiments on 5G mmW Radio Access with Beam Tracking in Small Cell Environments*, 2015 IEEE GLOBECOM WORKSHOPS (GC WKSHPs) (2015). The exact frequency used in the study was 73.5 GHz.

^{23/} George R. MacCartney, Jr, *et al.* *Millimeter Wave Wireless Communications: New Results for Rural Connectivity*, PROCEEDINGS OF THE 5TH WORKSHOP ON ALL THINGS CELLULAR: OPERATIONS, APPLICATIONS AND CHALLENGES, pp. 31-36, at 31 (2016), available at <https://arxiv.org/abs/1608.05384>.

^{24/} See, e.g., *Report and Order*, ¶¶ 7-8.

^{25/} *Id.*, ¶ 220.

procedure under which incumbent licensees will receive new Partial Economic Area (“PEA”) and county based licenses in exchange for their current Basic Trading Area (“BTA”) or Economic Area (“EA”) licenses. For 28 GHz licensees, this will mean meeting new performance requirements on a county-by-county basis, and for 39 GHz licensees, meeting new performance requirements on a PEA basis in less than 8 years from now. New entrants, however, will only be required to meet performance requirements at the end of their 10 year license terms. Even assuming an aggressive auction schedule, new entrants will be required to meet those requirements no earlier than 2027, over ten years from now and three years later than the deadline for incumbents. The Commission should remedy this imbalance.

Specifically, instead of changing the performance requirements for incumbent licensees, the Commission should grant them the option of meeting current performance obligations at the end of their current license terms and meeting new performance requirements at the same time as new entrants. As the Commission itself notes, there will be “significant lead time before the full development of the [millimeter wave] technology.”^{26/} It is not yet evident how technology in the millimeter wave bands will develop, and there can be no assurance that products will be sufficiently established and available to meet a 2024 performance deadline.

Moreover, there is no basis for imposing a more rigorous performance obligation on incumbent licensees. Deploying spectrum takes significant investment and planning. Changing the performance requirements for incumbents and imposing a shorter deadline on them will disrupt current business plans with little potential benefit. The shift in the performance requirements from a BTA or EA basis to a county or PEA basis is significant – the smaller license areas will require incumbent licensees to make additional performance requirement

^{26/} *Id.*, ¶ 205.

demonstrations. All of the above would be further exacerbated if the Commission were to adopt additional performance metrics, an issue on which it seeks comments in the *FNPRM*.^{27/} It is unfair for incumbent licensees to have an abbreviated time to comply with whatever rules the Commission adopts while new entrants will have a full license term to do so. Incumbent licensees – like new entrants – should be provided with a full license term to determine how any applicable performance requirements, whether adopted in the *Report and Order* or adopted based on the *FNPRM*, will be met.

T-Mobile appreciates that some licensees may be able to focus immediately on transitioning to 5G service and be able to meet the new performance deadlines by June 1, 2024. Therefore, it recommends that licensees have the option of demonstrating compliance either by June 1, 2024 (and presumably *not* again at the end of the then-current license term), or by the end of the current license term and then again at the end of the new license term. This will ensure that licensees – who are in the best position to evaluate their ability to migrate to 5G technologies – can make reasoned decisions about the performance requirements they can meet, and will promote use of the spectrum in the interim.

IV. THE COMMISSION SHOULD CLARIFY THE OPERABILITY REQUIREMENT FOR THE 37/39 GHZ BAND

The *Report and Order* established in-band operability requirements, stating that that any mobile or transportable device operating within the 28 GHz band must be capable of operating at all frequencies within that band and that a device operating in the 37 or 39 GHz bands must be capable of operating at all frequencies within the entirety of both of those bands (*i.e.*, 37 GHz-40

^{27/} *FNPRM*, ¶¶ 465-470.

GHz).^{28/} T-Mobile generally favors operability requirements, has supported those requirements in the past, and would otherwise support a similar requirement in this case. However, imposition of an operability requirement across the entire 37/39 GHz band may be premature, and the Commission should clarify the operability requirement or eliminate it.

Pursuant to the rules adopted in the *Report and Order*, the Lower 37 GHz Band Segment will be available on a shared basis between federal and non-federal users.^{29/} However, there are not yet rules on how this sharing will occur – the Commission is still considering this issue in the *FNPRM*.^{30/} In addition, T-Mobile has requested above that the Commission reconsider its decision to license the Lower 37 GHz Band Segment by rule, and instead make it available for non-federal use on a geographic area licensed basis, subject to sharing with federal users. Because of both of these factors, the technical rules for the Lower 37 GHz Band Segment will not be settled until some future date. In contrast, the upper segment of the 37/39 GHz band, for which the rules are settled, will almost certainly be available for use before a licensing and/or sharing regime is adopted for the 37 GHz Lower Band Segment. There is no reason why introduction of service using the upper segment of the 37/39 GHz band should be held hostage in order to also incorporate any further operational protocols the Commission ultimately adopts for the 37 GHz Lower Band Segment. Moreover, a broad operability requirement covering both the upper and lower segments of the band improperly presumes that both will be used to provide the same service. If, contrary to T-Mobile’s request, the Lower 37 GHz Band Segment remains available on a licensed-by-rule basis, there is no evidence that this presumption will be accurate.

^{28/} *Report and Order*, ¶¶ 322-323.

^{29/} *Id.*, ¶ 113.

^{30/} *FNPRM*, ¶¶ 448-453.

In light of the above, the Commission should clarify the extent of the operability requirement. It may be possible now for devices to accommodate the entire 37-40 GHz band, with the 37-37.6 GHz segment operating with the same protocols as the rest of the band. Devices will not be able to incorporate now any required sharing mechanisms, for example, that are adopted later. If the Commission expects devices to incorporate those later-adopted protocols, it is premature to require an operability requirement across both bands now. Even when licensees are able to put both bands into operation, there must be a sufficient period during which broad operability protocols can be developed – preferably by industry-led technical groups. At a minimum, the Commission should clarify that the operability requirements applicable to the 37-40 GHz band are limited to front-end radiofrequency capabilities and if they are not so limited, then they do not apply to the 37 GHz Lower Band Segment. Alternatively, the Commission may decline to require operability throughout the entire 37/39 GHz band until rules for the 37 GHz Lower Band Segment are adopted.

V. SECURITY REPORTING REQUIREMENTS SHOULD BE ELIMINATED

The *Report and Order* adopted rules^{31/} requiring licensees in the millimeter wave bands to file a Cybersecurity Statement with the Commission prior to the deployment of their networks.^{32/} This requirement is burdensome, unnecessary, and discriminatory, and was adopted without notice and an opportunity for comment. It should therefore be eliminated.

The *Report and Order* details the extensive demonstration required in the Cybersecurity Statement, with requirements relating to security plans and practices concerning “confidentiality, integrity, and availability”; “mitigating cyber risk”; “participation in cybersecurity standards and

^{31/} To be contained in 47 C.F.R. § 30.8.

^{32/} *Report and Order*, ¶ 263.

practices”; and the ways in which security concerns are incorporated into network design.^{33/}

While the rules require only “a high-level” of generality,^{34/} the burden placed on licensees is still substantial based on the number of topics to be covered, the difficulty in balancing the need to be forthright with the Commission while keeping matters relating to security and competitively sensitive information confidential, and the requirement for senior executive involvement.^{35/}

Despite the references in the *Report and Order* to the *NPRM*,^{36/} the Cybersecurity Statement requirement is entirely new to the *Report and Order* and has no basis in the *NPRM*. Rather, the *NPRM*’s discussion of the topic of security is limited purely to technical measures to increase security and does not discuss any reporting obligation like the Cybersecurity Statement.^{37/} Nor did any of the commenters who responded to the *NPRM* recommend such a requirement. The only justification the Commission provided for the imposition of the Cybersecurity Statement requirement is that it hopes to “facilitate multi-stakeholder peer review and earlier development of devices and a commercially viable market for the service.”^{38/} The *Report and Order* does not provide any detail as to who the “peers” are that will be conducting

^{33/} *Id.*

^{34/} *Id.*

^{35/} *Id.*

^{36/} *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services; Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band; Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0- 38.0 GHz and 40.0-40.5 GHz for Government Operations*, Notice of Proposed Rulemaking, 30 FCC Rcd. 11878 (2016) (“*NPRM*”).

^{37/} *Report and Order*, ¶¶ 260-265

^{38/} *Id.*, ¶ 264.

this review, the mechanism by which the “peer[s]” will be providing feedback, or what the Commission will do with the “review[s]” provided by the “peer[s].” The use of catch-phrases like “multi-stakeholder” and “peer review” is insufficient to provide any reasonable justification for the imposition of such a requirement on millimeter wave licensees. Therefore, the application of the Cybersecurity Statement requirement to millimeter wave band licensees is without any basis in the record, is arbitrary and capricious, and is contrary to the Administrative Procedure Act.^{39/}

Further, the Cybersecurity Statement requirement is unreasonably discriminatory as it is being applied only to millimeter wave band licensees despite any evidence in the record that security is a unique concern for the millimeter wave band. Absent such a finding, there is no basis for the disparate treatment of millimeter wave licensees, and the application of the requirement only to those licensees is arbitrary and capricious.

T-Mobile does not dispute the importance of security in the millimeter wave bands or other bands, but the lack of any justification for this mechanism or discussion of its effectiveness or appropriateness prevents the Commission from adopting rules imposing new regulatory burdens on licensees. Security protocols are best developed in response to customer demands by industry through standards-setting bodies or otherwise. Providers of wireless communications

^{39/} See, e.g., *Time Warner Cable Inc. v. FCC*, 729 F.3d 137, 170 (2d Cir. 2013) (vacating an FCC rule for lack of sufficient notice because the Notice of Proposed Rulemaking “did not specifically indicate that the FCC was considering adopting” the rule and noting that “even if it was the FCC’s intent to solicit comment on [the] rule, an unexpressed intention cannot convert a final rule into a logical outgrowth that the public should have anticipated”) (internal quotation marks omitted); *Prometheus Radio Project v. FCC*, 652 F.3d 431, 450 (3rd Cir. 2011) (holding that an agency must provide the public with its specific proposals or a “range of alternatives with reasonable specificity. Otherwise, interested parties will not know what to comment on”) (citing *Horsehead Res. Dev. Co., Inc. v. Browner*, 16 F.3d 1246, 1268, 305 U.S. App. D.C. 35 (D.C. Cir. 1994)); *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 547 (D.C. Cir. 1983) (“[I]f the final rule deviates too sharply from the proposal, affected parties will be deprived of notice and opportunity to respond to the proposal.”).

services have ample incentive to ensure that their networks are sufficiently protected. There is no need for the Commission to unnecessarily insert itself into network design. Nevertheless, should the Commission believe a Cybersecurity Statement requirement is within its authority and necessary, it should initiate a separate rulemaking proceeding to ensure that interested parties have the necessary procedural opportunities to evaluate the Commission's proposal. That process will ensure that the Commission and the public will have a full opportunity to analyze the proposal and its implications in accordance with the Administrative Procedure Act.

VI. CONCLUSIONS

T-Mobile commends the Commission for taking steps through the *Spectrum Frontiers Report and Order* and the *FNPRM* to help meet growing demand for network capacity by making additional spectrum available for terrestrial mobile use. In order to promote the greatest amount of investment and innovation in 5G technologies, the Commission should reconsider certain parts of the *Report and Order* and take the following actions:

- make more spectrum available for licensed use;
- grant incumbents the option of meeting current performance obligations at the end of their license terms and meeting new performance requirements at the same time as new entrants;
- clarify or eliminate the requirement that any mobile or transportable device operating in the 37 or 39 GHz bands be capable of operating at all frequencies within the entirety of both of those bands; and
- eliminate the Cybersecurity Statement requirement.

Respectfully submitted,

/s/ Steve B. Sharkey

Steve B. Sharkey

John Hunter

Christopher Wieczorek

T-MOBILE USA, INC.

601 Pennsylvania Avenue, N.W.

Suite 800

Washington, DC 20004

(202) 654-5900

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